

Straw Residential Graywater Regulation

Outline and Orientation

Maryland Residential Graywater Advisory Committee

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Maryland
Department of
the Environment

Straw Graywater Regulation Outline

0. Preamble
1. Purpose & Policy
2. Applicability
3. Definitions
4. General Requirements
5. Graywater Quality and Standards for Reuse (Type 1 – Type 3 Graywater)
6. Graywater Reuse and Disposal System Design and Construction Standards
7. Approvals: Three Levels

Purpose & Policy

- Establishes standards to protect public health, safety and welfare; water supplies and waters of the State
- Encourages locally authorized use of graywater
- Reduce potable water demand, reduce consumer costs, reduce energy and greenhouse gasses, increase drought resilience.

Applicability

- Diversion from sewer or septic system to “Beneficial Uses”
- Does Not Apply to... (Limitations)

Definitions

- Some definitions point to 26.04.02.01 (Sewer, Onsite Regs)
- Approving authority
- Beneficial purpose or reuse (not a “disposal end run”)
- Type 1 – Type 3 Graywater (Quality)
- Graywater Treatment (Primary, Secondary shorthand)

General Requirements

- Responsibility to comply with rules
- Authorization required
- Long List: Beneficial Uses, Prohibitions, Groundwater protection, limitations, Waste strength limitations, Flows, Design Plan, O & M, Reporting, Irrigation site evaluation, property lines crossed, additional limitations

Quality and Standards for Reuse

- Requirements for All Graywater: Beneficial residential purposes, Setbacks, Access and Exposure, Irrigation ...
- Type 1 Graywater:
 - Beneficial Uses: Subsurface irrigation including compost
 - Treatment: coarse filtering, presumed dissolved oxygen
 - Access/Exposure: Avoid contact with water & wet soil
 - Site management:
 - Storage < 24hrs,
 - No contact of food crops with graywater including root crops,
 - No surface ponding or runoff
 - Monitoring: None

Quality and Standards for Reuse

- Type 2 Graywater:
 - Beneficial Uses:
 - Same as Type 1, plus
 - Surface drip irrigation.
 - Treatment: Technology-based standard designed to meet:
 - 5-day BOD ≤ 10 mg/l,
 - TSS ≤ 10 mg/l

Alternative: NSF 350-1: CBOD₅ < 25 mg/L & TSS < 30 mg/L

- Access/Exposure: Public restricted from direct contact
- Site management:
 - No contact of food crops with graywater including root crops,
 - Sign postings for drip irrigation and landscape ponds,
- Monitoring:
 - Sampling associated with installation
 - Periodic sampling required by local approving authority

Quality and Standards for Reuse (Con't)

- Type 3 Graywater:
 - Beneficial Uses: Same as Type 2 plus
 - Toilet or urinal flushing
 - Treatment: NSF 350 Standard
 - Access & Exposure: Restrict public contact, notification of non-potable water, no food contact within 3-days of harvest
 - Site management: Prohibitions on food crops 3-days before harvest, sign posting, no aerosols unless approved, No groundwater connection to landscape ponds
 - Monitoring:
 - Sampling associated with installation
 - Periodic sampling required by local approving authority

System Design and Construction Standards

- Follow State plumbing code
- Warning signs
- Treatment to be approved by ANSI, IAPMO – Performance based systems capable of meeting treatment requirements
- Diversion Valve, Cross connection control, Storage/surge tanks, Distribution system, Irrigation system, Abandonment

Approvals

- Level 1 Approval < 300 gpd, and
 - Type 1 graywater
 - Subsurface irrigation only
 - Application process and local fees if required
- Level 2 Approval
 - Type 1 > 301 gpd < 600 gpd
 - Type 2 graywater uses < 600 gpd
 - Local fee if required, System Design Plan, O&M manual, Site Evaluation Report, Onsite disposal strength limitations
 - Specific Geographic Area approvals if necessary

Approvals

- Level 3 Approval
 - Level 3 Approval for Type 3 graywater
 - Level 3 Approval for any system > 600 gpd
 - Application
 - Local fee if required
 - System Design Plan, O&M manual, Site Evaluation Report, Onsite disposal strength limitations
 - Specific Geographic Area approvals if necessary

Thank You

Questions?

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